REMARKS

In the final Office Action, the Examiner rejects claims 1-6, 9, 10, 12-15, and 17-28 under 35 U.S.C. § 102(b) as being anticipated by Chi et al., "Context Query in Information Retrieval"; rejects claims 1-6, 9, 10, 12-15, and 17-28, in the alternative, under 35 U.S.C. § 103(a) as bring unpatentable over Chi et al. in view of Nguyen (U.S. Patent No. 5,444,823); rejects claim 7 under 35 U.S.C. § 103(a) as being unpatentable over Chi in view of Applicants' alleged admitted prior art (APA); and rejects claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Chi et al. in view of Mukherjee et al., "Automatic Discovery of Semantic Structures in HTML Documents."

The rejections are respectfully traversed.[1] Claims 1-10, 12-15, and 17-28 remain pending.

REJECTION UNDER 35 U.S.C. § 102 BASED ON CHI ET AL.

Claims 1-6, 9, 10, 12-15, and 17-28 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Chi et al. The rejection is respectfully traversed.

A proper rejection under 35 U.S.C. § 102 requires that a single reference teach every aspect of the claimed invention. Any feature not directly taught must be inherently present. In other words, the identical invention must be shown in as complete detail as

[1] As Applicants' remarks with respect to the Examiner's rejections overcome the rejections, Applicants' silence as to certain assertions by the Examiner in the Office Action or certain requirements that may be applicable to such rejections (e.g., whether a reference constitutes prior art, motivation to combine references, assertions as to dependent claims, etc.) is not a concession by Applicants that such assertions are accurate or that such requirements have been met, and Applicants reserve the right to dispute these assertions/requirements in the future.

contained in the claim. See M.P.E.P. § 2131. Chi et al. does not disclose the combination of features recited in claims 1-6, 9, 10, 12-15, and 17-28.

Independent claim 1, for example, is directed to a method that includes identifying an implicitly defined semantic structure associated with terms in a document; determining whether a first relationship or a second relationship exists between a first term and a second term within the implicitly defined semantic structure; determining a first distance value between the first and second terms when the first relationship exists between the first and second terms; determining a second distance value between the first and second terms when the second relationship exists between the first and second terms, wherein the first and second distance values differ; and outputting the first distance value or the second distance value to rank the document for relevancy to a search query that includes at least the first term. This combination of features is not disclosed or suggested by Chi et al.

For example, Chi et al. does not disclose or suggest determining a first distance value between first and second terms within an implicitly defined semantic structure when a first relationship exists between the first and second terms; and determining a second distance value between the first and second terms when a second relationship exists between the first and second terms, the first and second distance values being different, as required by claim 1. The Examiner alleges that Chi et al. discloses "the calculations of several different semantic distances for different relationships, each of which is a different semantic distance using the broadest reasonable interpretation, (proximity [(Rule1)], in title [(Rule 2)], site context [(Rule 3)], Heading context [(Rule

4)], ect. [(Rules 5-8).] See section 4 and that these different semantic distances are used to rank the documents based on relevancy in section 5)" (final Office Action, p. 3). Applicants respectfully disagree with the Examiner's interpretation of Chi et al.

Contrary to the Examiner's allegation, Applicants respectfully submit that the heuristic rules listed in Chi et al. do not equate to "different semantic distances for different relationships," and instead, at most, correspond to different semantic structures. That is, Chi et al. does not disclose or suggest determining a first distance value between first and second terms within an implicitly defined semantic structure defined by one of Rules 1-8 when a first relationship exists between the first and second terms; and determining a second distance value between the first and second terms within the one implicitly defined semantic structure when a second relationship exists between the first and second terms, the first and second distance values being different, as would be required by claim 1 according to the Examiner's interpretation.

To the contrary, Chi et al. discloses a query operator, "in," to be used to connect two search terms in a search query to specify the "context inclusion" between the two terms when they occur in searched documents (Chi et al., Abstract). Chi et al. discloses that use of the "in" operator causes a search engine to apply a list of heuristic rules on the "detection of inclusion relation" between two terms occurring in a document, i.e., whether one of the terms is considered to be "in the context" of the other (Chi et al., Abstract and Sec. 4). Chi et al. discloses that two terms either satisfy the "in" relation, or they are not (Chi et al., Sec. 5). Chi et al. discloses that a document is "relevant," when

the "in" relation is satisfied, and "irrelevant" when the "in" relation is not satisfied (Chi et al., Sec. 5.1, 3rd paragraph).

In particular, Rule 1 ("Proximity Rule") of Chi et al. discloses that two terms (*t1*, *t2*) that occur as "component words in a phrase" are considered to have "inclusion relation" (Chi et al., Sec. 4). Assuming, for the sake of argument, that a "phrase" in Rule 1 of Chi et al. corresponds to the claimed "first implicitly defined semantic structure" (a point that Applicants do not concede), nowhere in connection with Rule 1 or elsewhere does Chi et al. disclose or suggest determining a first distance value between *t1* and *t2* when a first relationship exists between *t1* and *t2* within the phrase; and determining a second distance value between *t1* and *t2* when a second relationship exists between *t1* and *t2* within the phrase, wherein the first and second distance values differ, as would be required by claim 1. In contrast, Chi et al. appears to merely disclose that where a "phrase" contains *t1* and *t2*, *t1* and *t2* have "inclusion relation."

With respect to Rule 2 ("Title Context Rule"), Chi et al. discloses that where a term *t2* is included in the title of a web page and a term *t1* occurs in the main body of the web page, the term *t1* is considered to be "in the context of" the term *t2* (Chi et al., Sec. 4). Assuming, for the sake of argument, that a "title – main body" structure in Rule 2 of Chi et al. corresponds to the claimed "first implicitly defined semantic structure" (a point that Applicants do not concede), nowhere in connection with Rule 2 or elsewhere does Chi et al. disclose or suggest determining a first distance value between *t1* and *t2* when a first relationship exists between *t1* and *t2* within the title – main body; and determining a second distance value between *t1* and *t2* when a second relationship exists between *t1* and

t2 within the title – main body, wherein the first and second distance values differ, as would be required by claim 1. In contrast, Chi et al. appears to merely disclose that where *t2* occurs in the title of a web page and *t1* occurs in the main body of the web page, *t1* is considered to be "in the context of" *t2*.

With respect to Rule 3 ("Site Context Rule"), Chi et al. discloses that where a term *t2* is matched with a web site and a term *t1* occurs in the html document source (e.g., title, meta-tags, and body text, etc.), *t1* is considered to be "in the context of" the term *t2* (Chi et al., Sec. 4). Alternatively, where a term *t1* is matched with a sub-site or a directory under the matched web-site, the term *t1* is considered to be "in the context of" a term *t2* (Chi et al., Sec. 4). Assuming, for the sake of argument, that a "web site – html document source" structure in Rule 3 of Chi et al. corresponds to the claimed "first implicitly defined semantic structure" (a point that Applicants do not concede), nowhere in connection with Rule 3 or elsewhere does Chi et al. disclose or suggest determining a first distance value between *t1* and *t2* when a first relationship exists between *t1* and *t2* within the web site – html document source; and determining a second distance value between *t1* and *t2* when a second relationship exists between *t1* and *t2* within the web site – html document source, wherein the first and second distance values differ, as would be required by claim 1. In contrast, Chi et al. appears to merely disclose that where *t2* is matched with a web site and *t1* occurs in the html document source, or, alternatively, where *t2* is matched with a web site and *t1* occurs in a sub-site or a directory under the matched web-site, *t1* is considered to be "in the context of" *t2*.

With respect to Rule 4 ("Heading Context Rule"), Chi et al. discloses that where a term *t2* occurs in heading text of a web page and a term *t1* occurs in corresponding body text, the term *t1* is considered to be "in the context of" the term *t2* (Chi et al., Sec. 4). Assuming, for the sake of argument, that a "heading – body text" structure in Rule 4 of Chi et al. corresponds to the claimed "first implicitly defined semantic structure" (a point that Applicants do not concede), nowhere in connection with Rule 4 or elsewhere does Chi et al. disclose or suggest determining a first distance value between *t1* and *t2* when a first relationship exists between *t1* and *t2* within the heading – body text; and determining a second distance value between *t1* and *t2* when a second relationship exists between *t1* and *t2* within the heading – body text, wherein the first and second distance values differ, as would be required by claim 1. In contrast, Chi et al. appears to merely disclose that where *t2* occurs in heading text and *t1* occurs in the body text, *t1* is considered to be "in the context of" *t2*.

With respect to Rule 5 ("List Context Rule"), Chi et al. discloses that where a term *t2* occurs in a list heading and a term *t1* occurs in a list item, the term *t1* is considered to be "in the context of" term *t2* (Chi et al., Sec. 4). Assuming, for the sake of argument, that a "list heading – list item" structure in Rule 5 of Chi et al. corresponds to the claimed "first implicitly defined semantic structure" (a point that Applicants do not concede), nowhere in connection with Rule 5 or elsewhere does Chi et al. disclose or suggest determining a first distance value between *t1* and *t2* when a first relationship exists between *t1* and *t2* within the list heading – list item; and determining a second distance value between *t1* and *t2* when a second relationship exists between *t1* and *t2*

within the list heading – list item, wherein the first and second distance values differ, as would be required by claim 1. In contrast, Chi et al. appears to merely disclose that where *t2* occurs in a list heading and *t1* occurs in a list item, *t1* is considered to be "in the context of" *t2*.

With respect to Rule 6 ("Table Context Rule"), Chi et al. discloses that where either 1) a term *t2* occurs in a caption of a table and a term *t1* occurs in the table, or 2) a term *t2* occurs in a table heading and a term *t1* occurs in corresponding table data, the term *t1* is considered to be "in the context of" the term *t2*. Assuming, for the sake of argument, that a "caption – table" or "table heading – table data" structure in Rule 6 of Chi et al. corresponds to the claimed "first implicitly defined semantic structure" (a point that Applicants do not concede), nowhere in connection with Rule 6 or elsewhere does Chi et al. disclose or suggest determining a first distance value between *t1* and *t2* when a first relationship exists between *t1* and *t2* within the caption – table or table heading – table data; and determining a second distance value between *t1* and *t2* when a second relationship exists between *t1* and *t2* within the caption – table or table heading – table data, wherein the first and second distance values differ, as would be required by claim 1. In contrast, Chi et al. appears to merely disclose that where either 1) *t2* occurs in a caption of a table and *t1* occurs in the table, or 2) *t2* occurs in a table heading and *t1* occurs in corresponding table data, *t1* is considered to be "in the context of" *t2*.

With respect to Rule 7 ("Frame Context Rule"), Chi et al. discloses that where a term *t2* occurs in an anchor text in a sidebar frame of a multi-frame web page and a term *t1* occurs in the content frame, the term *t1* is considered to be "in the context of" the term

t2 (Chi et al., Sec. 4). Assuming, for the sake of argument, that a "content frame – anchor text" structure in Rule 7 of Chi et al. corresponds to the claimed "first implicitly defined semantic structure" (a point that Applicants do not concede), nowhere in connection with Rule 7 or elsewhere does Chi et al. disclose or suggest determining a first distance value between *t1* and *t2* when a first relationship exists between *t1* and *t2* within the content frame – anchor text; and determining a second distance value between *t1* and *t2* when a second relationship exists between *t1* and *t2* within the content frame – anchor text, wherein the first and second distance values differ, as would be required by claim 1. In contrast, Chi et al. appears to merely disclose that where *t2* occurs in anchor text in a sidebar frame and *t1* occurs in the content frame, *t1* is considered to be "in the context of" *t2*.

With respect to Rule 8 ("Index Page Rule"), Chi et al. appears to disclose that where a term *t2* matches with a web site's URL related information and a term *t1* occurs in an index page, the term *t1* is considered to be "in the context of" the term *t2* (Chi et al., Sec. 4). Assuming, for the sake of argument, that a "index page – URL related information" structure in Rule 8 of Chi et al. corresponds to the claimed "first implicitly defined semantic structure" (a point that Applicants do not concede), nowhere in connection with Rule 8 or elsewhere does Chi et al. disclose or suggest determining a first distance value between *t1* and *t2* when a first relationship exists between *t1* and *t2* within the index page – URL related information; and determining a second distance value between *t1* and *t2* when a second relationship exists between *t1* and *t2* within the index page – URL related information, wherein the first and second distance values

differ, as would be required by claim 1. In contrast, Chi et al. appears to merely disclose that where *t2* matches with a web site's URL related information and *t1* occurs in an index page, *t1* is considered to be "in the context of" *t2*.

For at least these reasons, Applicants respectfully submit that claim 1 is not anticipated by Chi et al. Claims 2-6 and 9 depend from claim 1 and are, therefore, not anticipated by Chi et al. for at least the reasons given with respect to claim 1.

Independent claims 10, 12, 22, and 25 recite features similar to (yet of possibly different scope than) features recited in claim 1. Claims 10, 12, 22, and 25 are, therefore, not anticipated by Chi et al. for at least reasons similar to the reasons given above with respect to claim 1.

Claims 13-15 and 17-21 depend from claim 12 and are, therefore, not anticipated by Chi et al. for at least the reasons given with respect to claim 12.

Claims 23 and 24 depend from claim 22 and are, therefore, not anticipated by Chi et al. for at least the reasons given with respect to claim 22.

Claims 26-28 depend from claim 25 and are, therefore, not anticipated by Chi et al. for at least the reasons given with respect to claim 25.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-6, 9, 10, 12-15, and 17-28 based on Chi et al.

REJECTION UNDER 35 U.S.C. § 103 BASED ON CHI ET AL. AND NGUYEN

Claims 1-6, 9, 10, 12-15, and 17-28 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Chi et al. in view of Nguyen. The rejection is respectfully traversed.

Applicants respectfully submit that Chi et al. and Nguyen, whether taken alone, or in any reasonable combination, do not disclose the combination of features recited in claims 1-6, 9, 10, 12-15, and 17-28.

For example, claim 1 recites, among other things, determining a first distance value between first and second terms within an implicitly defined semantic structure when a first relationship exists between the first and second terms; and determining a second distance value between the first and second terms when a second relationship exists between the first and second terms, the first and second distance values being different. Chi et al. and Nguyen, whether taken alone, or in any reasonable combination, do not disclose these features.

The disclosure of Nguyen does not cure the deficiencies in the disclosure of Chi et al. set forth above with respect to claim 1. The Examiner points to col. 1, lines 30-40 of Nguyen as allegedly disclosing these features (final Office Action, p. 3). Applicants disagree. At col. 1, lines 30-40, Nguyen discloses:

> The most common line of reasoning used by an expert system involves the chaining, either forward, backward or a flexible mix thereof, of IF-THEN rules. However, as knowledge of the domain for a particular problem is almost always incomplete and, has, therefore, a degree of uncertainty in the solution thereof, a rule may have associated therewith, a confidence factor ("CF") or weight.

The Examiner alleges that "it would have been obvious . . . to assign a weight to each of the rules in Chi as they have different impacts on document relevancy . . . do to the fact that it would provide more accurate ranking results" (final Office Action, p. 3, citing section 5, last paragraph of Chi et al. for support). The above section of Nguyen merely discloses associating a confidence factor or weight with an IF-THEN rule. Nowhere in this section, or elsewhere, does Nguyen disclose or remotely suggest determining a first distance value between first and second terms within an implicitly defined semantic structure when a first relationship exists between the first and second terms; and determining a second distance value between the first and second terms when a second relationship exists between the first and second terms, the first and second distance values being different.

For at least these reasons, Applicants respectfully submit that claim 1 is patentable over Chi et al. and Nguyen, whether taken alone, or in any reasonable combination.

Claims 2-6 and 9 depend from claim 1 and are, therefore, patentable over Chi et al. and Nguyen, whether taken alone, or in any reasonable combination, for at least the reasons given with respect to claim 1.

Independent claims 10, 12, 22, and 25 recite features similar to (yet of possibly different scope than) features recited in claim 1. Claims 10, 12, 22, and 25 are, therefore, patentable over Chi et al. and Nguyen, whether taken alone, or in any reasonable combination, for at least reasons similar to the reasons given above with respect to claim 1.

Claims 13-15 and 17-21 depend from claim 12 and are, therefore, patentable over Chi et al. and Nguyen, whether taken alone, or in any reasonable combination, for at least the reasons given with respect to claim 12.

Claims 23 and 24 depend from claim 22 and are, therefore, patentable over Chi et al. and Nguyen, whether taken alone, or in any reasonable combination, for at least the reasons given with respect to claim 22.

Claims 26-28 depend from claim 25 and are, therefore, patentable over Chi et al. and Nguyen, whether taken alone, or in any reasonable combination, for at least the reasons given with respect to claim 25.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-6, 9, 10, 12-15, and 17-28 based on Chi et al. and Nguyen.

REJECTION UNDER 35 U.S.C. § 103 BASED ON CHI ET AL. AND APA

Claim 7 stands rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Chi et al. in view of paragraph 5 of Applicants' specification. The rejection is traversed.

Claim 7 depends from claim 1. Without acquiescing that paragraph 5 of Applicants' specification constitutes prior art, Applicants submit that paragraph 5 of Applicants' specification does not cure the deficiencies in Chi et al. noted above with respect to claim 1. Claim 7 is, therefore, patentable over Chi et al. and paragraph 5 of Applicants' specification, whether taken alone or in any reasonable combination.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 7 based on Chi et al. and paragraph 5 of Applicants' specification.

REJECTION UNDER 35 U.S.C. § 103 BASED ON CHI ET AL. & MAKHERJEE ET AL.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Chi et al. in view of Makherjee et al.. The rejection is traversed.

Claim 8 depends from claim 1. Without acquiescing in the Examiner's rejection with respect to claim 8, Applicants submit that Makherjee et al does not cure the deficiencies in Chi et al. noted above with respect to claim 1. Claim 8 is, therefore, patentable over Chi et al. and Makherjee et al., whether taken alone or in any reasonable combination.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 8 based on Chi et al. and Makherjee et al.

CONCLUSION

In view of the foregoing remarks, Applicants respectfully request the Examiner's reconsideration of the application and the timely allowance of the pending claims.

If the Examiner believes that the application is not now in condition for allowance, Applicants respectfully request that the Examiner contact the undersigned to discuss any outstanding issues.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the

filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

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